

Received from

REPORT ON MACHINERY.

Surveyor

19 OCT. 1900

TUES. 30 OCT 1900

Port of

Glasgow

Received at London Office

18

No. in Survey held at
Reg. Book.

Renfrew

Date, first Survey

12 January

Last Survey

11 October 1900

(Number of Visits 34)

on the

Hopper Barge "Fronie"

Tons

Gross 491.19

Net 267.55

When built

1900

Master

Built at

Renfrew

By whom built

Tom Simons & Co

Engines made at

Renfrew

By whom made

Tom Simons & Co

when made

1900

Boilers made at

Glasgow

By whom made

P. Napier & Sons

when made

1900

Registered Horse Power

Owners

Bristol Corporation

Port belonging to

Bristol

Nom. Horse Power as per Section 28

90

Is Refrigerating Machinery fitted

no

Is Electric Light fitted

no

ENGINES, &c.—Description of Engines

Twin triple expansion

No. of Cylinders

six

No. of Cranks

six

Dia. of Cylinders

11" 17" 28"

Length of Stroke

21"

Revs. per minute

150

Dia. of Screw shaft

as per rule 5 1/2"

Lgth. of stern bush

25"

Dia. of Tunnel shaft

as per rule 5 3/4"

Dia. of Crank shaft journals

as per rule 5 3/4"

Dia. of Crank pin

5 3/4"

Size of Crank webs

4 1/2" x 1 1/8"

Dia. of thrust shaft under

collars

5 3/4"

Dia. of screw

6" 6"

Pitch of screw

9" 6"

No. of blades

4"

State whether moveable

No. of Feed pumps

on each engine

Diameter of ditto

2 1/4"

Stroke

12"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

on each engine

Diameter of ditto

2 1/4"

Stroke

12"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

one

Sizes of Pumps

8" x 6" x 8"

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room

three 2 1/2"

In Holds, &c.

five 2 1/2"

No. of bilge injections

2 sizes 3"

Connected to condenser, or to circulating pump

pump

Is a separate donkey suction fitted in Engine room & size

yes 3"

Are all the bilge suction pipes fitted with roses

yes

Are the roses in Engine room always accessible

yes

Are the sluices on Engine room bulkheads always accessible

no

Are all connections with the sea direct on the skin of the ship

yes

Are they Valves or Cocks

both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

yes

Are the discharge pipes above or below the deep water line

above

Are they each fitted with a discharge valve always accessible on the plating of the vessel

yes

Are the blow off cocks fitted with a spigot and brass covering plate

yes

What pipes are carried through the bunkers

ford bilge suction & also steam & exhaust pipes for

How are they protected

with wood casings

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times

yes

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

yes

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

before launch

the screw shaft tunnel watertight

no

Is it fitted with a watertight door

worked from

Is it fitted with a watertight door

worked from

BOILERS, &c.—

(Letter for record 3)

Total Heating Surface of Boilers

1636 sq ft

Is forced draft fitted

no

No. and Description of Boilers

on single ended return tube

Working Pressure

160 lbs

Tested by hydraulic pressure to

320

Date of test

9/6/00

Can each boiler be worked separately

—

Area of fire grate in each boiler

54.6 sq ft

No. and Description of safety valves to

each boiler

on pair direct spring

Area of each valve

7.07 sq"

Pressure to which they are adjusted

165 lbs

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

about 5' 6"

Mean dia. of boilers

18" 0"

Length

11' 6"

Material of shell plates

steel

Thickness

1/8"

Range of tensile strength

27' 32"

Are they welded or flanged

no

Descrip. of riveting

c/c. seams double lap

long. seams triple butt

Diameter of rivet holes in long. seams

1 3/16"

Pitch of rivets

8 1/4"

Lap of plates or width of butt straps

17 1/4"

Per centages of strength of longitudinal joint

rivets 89.0

plate 85.6

Working pressure of shell by rules

184 lbs

Size of manhole in shell

16 x 12

Size of compensating ring

M. Nuts

No. and Description of Furnaces in each boiler

3 Mousons

Material

steel

Outside diameter

42 1/4"

Length of plain part

top 15"

Thickness of plates

crown 15"

Description of longitudinal joint

welded

No. of strengthening rings

—

Working pressure of furnace by the rules

163 lbs

Combustion chamber plates: Material

steel

Thickness: Sides

9/16"

Back

9/16"

Top

3/4"

Pitch of stays to ditto: Sides

8 1/4" x 8"

Back

8 1/4" x 8"

Top

8 1/4" x 7 1/2"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

166.182

Material of stays

steel

Diameter at smallest part

1 1/4"

Area supported by each stay

66 sq"

Working pressure by rules

176 lbs

End plates in steam space:

Material

steel

Thickness

1"

Pitch of stays

15 1/2" x 14 1/4"

How are stays secured

2 nuts to

Working pressure by rules

167 lbs

Material of stays

steel

Diameter at smallest part

4 1/4"

Area supported by each stay

228 1/2 sq"

Working pressure by rules

220 lbs

Material of Front plates at bottom

steel

Thickness

3/4"

Material of Lower back plate

steel

Thickness

3/4"

Greatest pitch of stays

13 1/2"

Working pressure of plate by rules

350 lbs

Diameter of tubes

3 1/2"

Pitch of tubes

4 1/2" x 4 1/2"

Material of tube plates

steel

Thickness: Front

13/16"

Back

13/16"

Pitch across wide water spaces

14 1/2" with double

Working pressures by rules

237 x 225 lbs

Girders to Chamber tops: Material

steel

Depth and thickness of girder at centre

9" x 1/2" double

Length as per rule

34 3/8"

Distance apart

7 1/2"

Number and pitch of Stays in each

three 8"

Working pressure by rules

160 lbs

Superheater or Steam chest; how connected to boiler

no

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

—

—

—

—

—

—

DONKEY BOILER— No. Description *none*

Made at By whom made When made Where fixed
Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves
No. of safety valves Area of each Pressure to which they are adjusted If fitted with easing gear If steam from main boilers can enter the donkey boiler
Dia. of donkey boiler Length Material of shell plates Thickness Range of tensile strength
Descrip. of riveting long. seams Dia. of rivet holes Whether punched or drilled Pitch of rivets
Lap of plating Per centage of strength of joint Rivets Thickness of shell crown plates Radius of do. No. of Stays to do.
Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description
joint Thickness of furnace crown plates Stayed by Working pressure of shell by rules
Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied:— 2 top end bolts and nuts 2 bottom end bolts and nuts 1 set of coupling bolts and nuts 2 main bearing bolts and nuts 1 set of bilge & mud pump valves bolts of various sizes and assorted sizes of iron turn spanners
The foregoing is a correct description, FOR WM. SIMONS & CO., LTD
Manufacturer. *Wm. Brown*

Dates During progress of work in shops— 1900: Jan. 12. 19. 30. Feb. 6. 8. 13. 14. 16. 20. Mar. 6. 15. 22. 30. Apr. 12. May. 1. 5. 17. 18. June 5. 13. 19. 29. July. 31. Aug. 7. 14. 16. Sep. 7. 13. 17. 25. 26. Oct. 10. 11.
of Survey while board vessel - - -
building Total No. of visits 34.
Is the approved plan of main boiler forwarded herewith *yes*
" " " donkey " " " *none*

General Remarks (State quality of workmanship, opinions as to class, &c.)
These engine and boiler have been constructed under special supervision. The materials and workmanship are of good description, they have been well fitted on board and tried under steam.

In our opinion this machinery is eligible to have notification of LMC 10.00. in the Register Book

It is submitted that this vessel is eligible for THE RECORD. LMC. 10-00

AS 30.10.00
30.10.00

The amount of Entry Fee... £ : :
Special ... £ 13 : 10 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 27/10/1900.
When received, 31.10.00

Committee's Minute Glasgow. 29 OCT. 1900
Assigned L.M.C. 10.00
(When fees paid)

A McKeand H Gardiner Smith.
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
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Certificate (if required) to be sent to Glasgow